The West Bengal University of Health Sciences
1st BMLT September, 2023 Examination

Subject : Basics of Human Anatomy and Basics of Human Physiology

Time: 3 Hours **Full Marks: 100**

Anatomy

*Attempt **all** questions*

1. Choose the most appropriate option : 10 x 1

a) Cilliated columnar epithelium is present in :
   i) Bile duct & esophagus. ii) Bronchioles & fallopian tubes.
   iii) Urethra. iv) Tongue.

b) Heart beat orginates from :
   i) SA node. ii) AV none. iii) Bundle of His. iv) Purkinje fibres.

c) Where can we find the pseudostratified epithelium?
   i) Ureter. ii) Uterus. iii) Trachea. iv) Brain.

d) The 3rd omentum connects the stomach with _____ :
   i) Liver. ii) Transverse colon. iii) Spleen. iv) Kidney.

e) Lungs are enclosed within :
   i) Perichondrium. ii) Periosteum. iii) Pleural membrane. iv) Pericardium

f) Daily requirement of vitamin D for an adult person is :
   i) 1000 IU. ii) 5000 IU. iii) 100-300 IU. iv) 400-600 IU.

g) Who is not the member of paranasal air sinus group?
   i) Frontal air sinus. ii) Mastoid air sinus.
   iii) Maxillary air sinus. iv) Ethmoid air sinus.

h) Which of the following is correctly matched pair of an organ & muscles present in the organ?
   i) Intestine – Striated & involuntary. ii) Heart – involuntary & unstriated smooth muscle.
   iii) Thigh – striated & voluntary iv) Upper arm – smooth muscle & fusiform shape.

i) Own DNA is in :
   i) Ribosome. ii) Mitochondria. iii) Centriole. iv) Golgi body.

j) Number of chromosome present in secondary oocyte is :
   i) 44A + XY. ii) 44A + XX. iii) 22A + XX. iv) 22A + X.

2. Write short notes on ***any four*** of the following : 4 x 5

a) Supports of Uterus. b) Axillary lymph nodes & its importance.
c) Draw & Label nephron. d) Structure of ribosome.
e) Spermatogenesis. f) Basic diagram of neuron.

3. Answer ***any two*** from the following :

a) Classify epithelial tissue & write their situation. State the function of mitochondria. 6+4

b) Describe the "**heart**" under following headings : 2+3+5
   i) What are its different chambers?
   ii) Where you do find the anatomical base & clinical base of heart?
   iii) Give an account of the interior of the right atrium with a diagram.

c) What is podocyte? State the anatomical position of kidney. Describe general arrangement of urinary system. 2+2+6

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Physiology
*Attempt **all** questions*

1. Tick the correct answer : 10 x 1
   a) Which of the following endocrine gland is known as 'Master Gland'?
      i) Pineal gland. ii) Hypothalamus.
      iii) Pituitary. iv) Gonads.
   b) Granulocytes are :
      i) Acidophils. ii) Lymphocytes. iii) Monocytes. iv) None of these.
   c) Asphyxia occurs due to?
      i) Rise in level of CO_2. ii) Fall in level of CO_2.
      iii) Rise of O_2 level. iv) Fall in O_2 level.
   d) Name the hormone which takes part in the release of FSH and LH from the anterior pituitary :
      i) Growth hormone. ii) GnRH. iii) Somatostatin. iv) TRH.
   e) Name the gland that is located at the base of the throat, just inferior to the laryngeal prominence (Adam's apple) :
      i) Pituitary. ii) Pineal gland. iii) Hypothalamus. iv) Thyroid.
   f) The clusters of cells in the pancreas that produce hormones are the :
      i) Nodules. ii) Islets of Langerhans.
      iii) Pancreatic medulla. iv) Pancreatic cortex.
   g) The _____ is a network of tiny blood vessels located at the beginning of a nephron :
      i) Renal calyces. ii) Renal pyramid. iii) Bowman's capsule. iv) Glomerulus.
   h) Complete digestion of food occurs in :
      i) Stomach. ii) Small Intestine. iii) Pancreas. iv) Large Intestine.
   i) Trypsinogen is converted into active trypsin by the action of :
      i) Cholecystokinin. ii) Enterocrinin. iii) Enterokinase. iv) Secretin.
   j) Volume of air left after maximum forceful expiration in human lung is :
      i) Total lung capacity. ii) Residual volume.
      iii) Vital capacity. iv) Tidal volume.

2. Write short notes on ***any four*** of the following : 4 x 5
   a) What is the role of HCl in the stomach?
   b) What do you mean by cardiac cycle?
   c) Name the types of cells in the pancreas with their functions.
   d) Describe the extrinsic mechanism of initiation of clotting.
   e) Write mechanism of action of TSH.
   f) What is Chloride Shift?

3. Answer ***any two*** from the following :
   a) Describe the carriage of O_2 by haemoglobin. What is Bohr effect? 6+4
   b) Describe the impulse conduction from SA node to Purkinje System. 10
   c) What is counter current exchange mechanism? How does it work? What is its purpose? 3+5+2